

# **An extrinsic view on the EERQI framework:**

## **Bibliometric testing and related issues**

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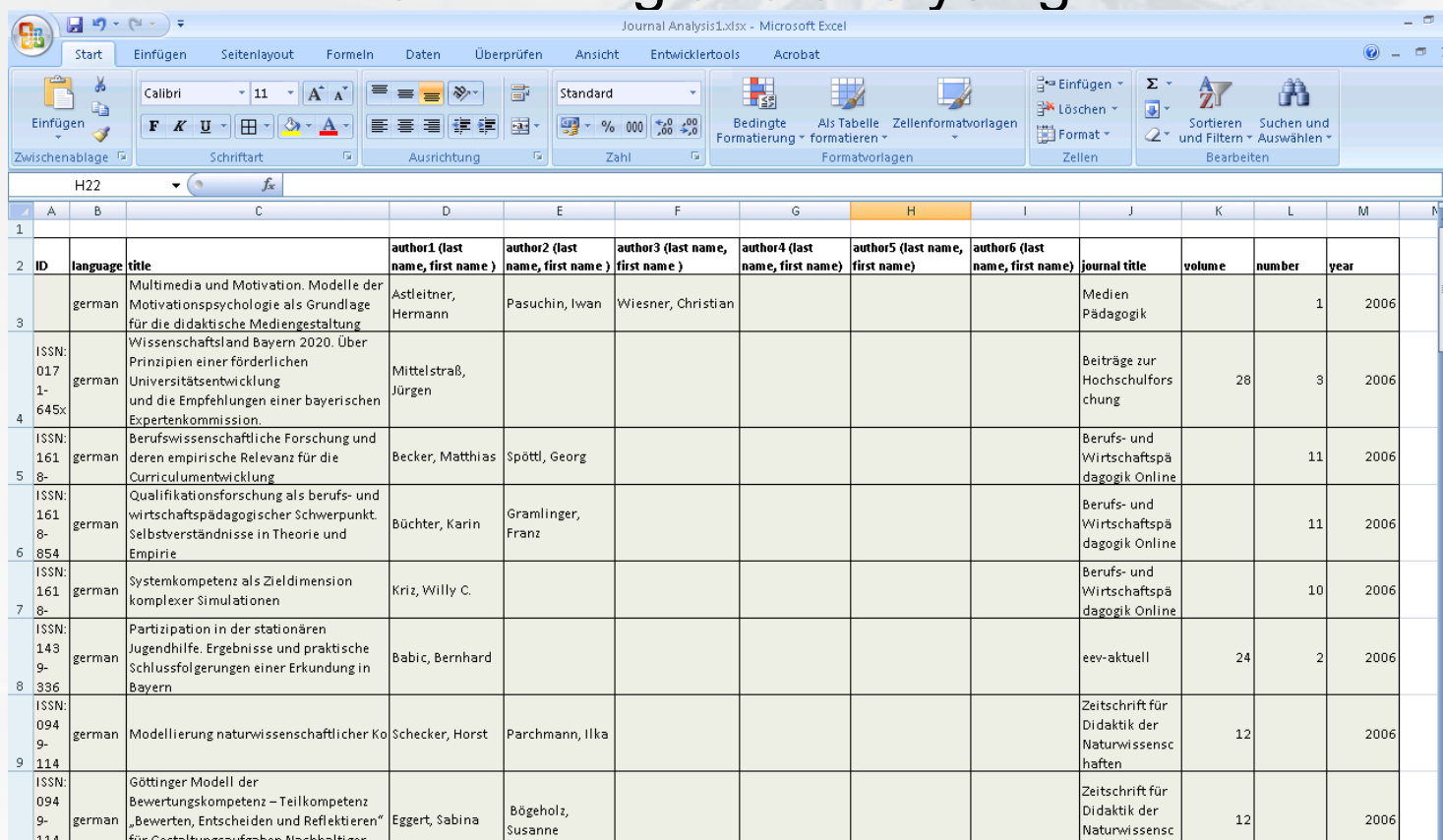
19.03.2010

# Outline

- WP 6 tasks
  - Meta data
  - Design of framework for indicator testing and validation procedures
  - Refinement of methodology and presentation to the scientific community
- Bibliometric testing
  - Test sample
  - Sources of extrinsic indicators
  - Results to date
- Discussion of next steps

# WP6 task 1

“Adding the necessary metadata to test and evaluate the new indicators and thus preparing the content base for searching, text mining and analysing.”



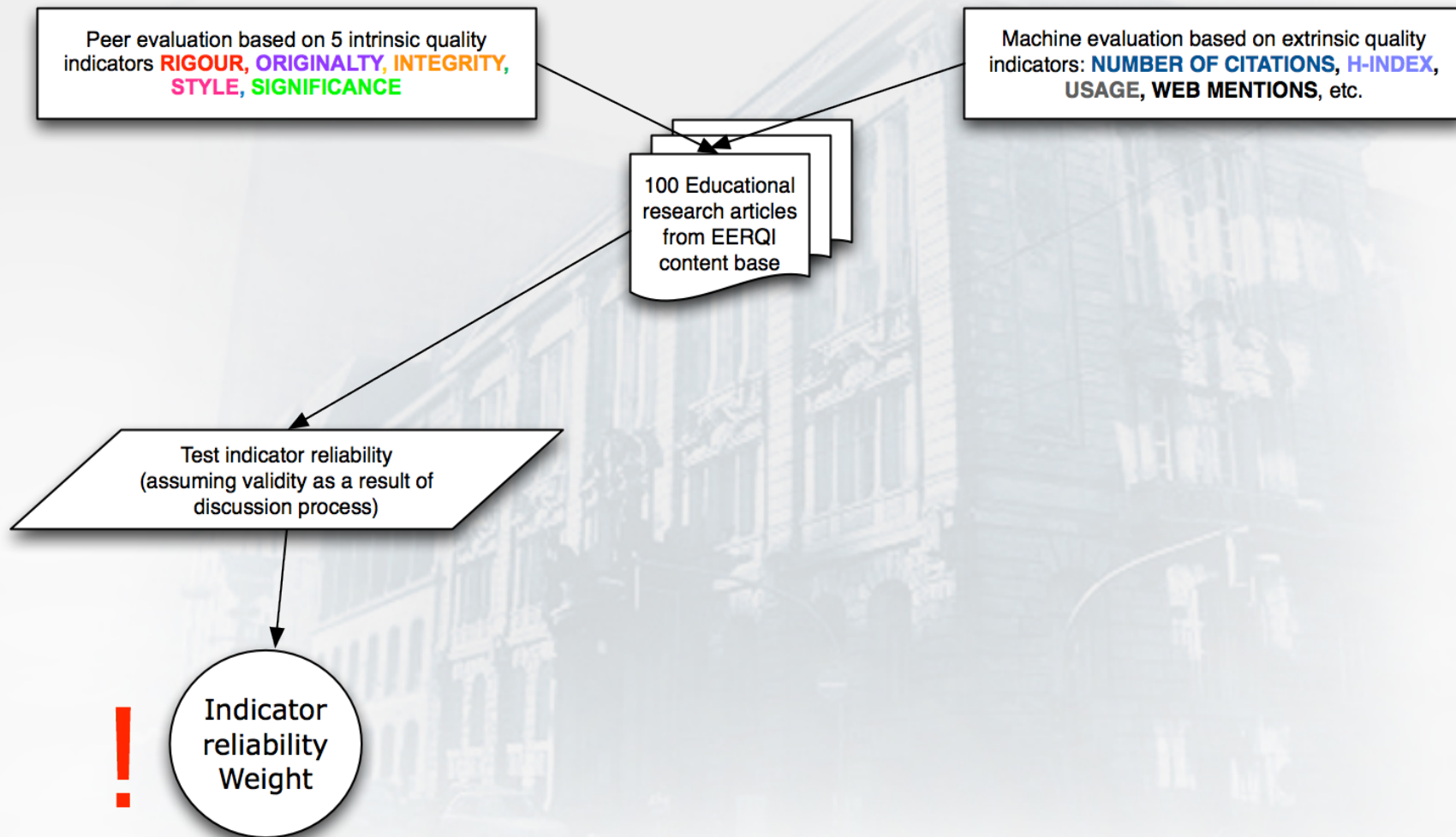
	A	B	C	D	E	F	G	H	I	J	K	L	M
	ID	language	title	author1 (last name, first name)	author2 (last name, first name)	author3 (last name, first name)	author4 (last name, first name)	author5 (last name, first name)	author6 (last name, first name)	journal title	volume	number	year
1		german	Multimedia und Motivation. Modelle der Motivationspsychologie als Grundlage für die didaktische Mediengestaltung	Astleitner, Hermann	Pasuchin, Iwan	Wiesner, Christian				Medien Pädagogik		1	2006
2	ISSN: 017 1- 645x	german	Wissenschaftsland Bayern 2020. Über Prinzipien einer förderlichen Universitätsentwicklung und die Empfehlungen einer bayerischen Expertenkommission.	Mittelstraß, Jürgen						Beiträge zur Hochschulforschung	28	3	2006
3	ISSN: 161 8-	german	Berufswissenschaftliche Forschung und deren empirische Relevanz für die Curriculumentwicklung	Becker, Matthias	Spöttl, Georg					Berufs- und Wirtschaftspädagogik Online		11	2006
4	ISSN: 161 8- 854	german	Qualifikationsforschung als berufs- und wirtschaftspädagogischer Schwerpunkt. Selbstverständnisse in Theorie und Empirie	Büchter, Karin	Gramlinger, Franz					Berufs- und Wirtschaftspädagogik Online		11	2006
5	ISSN: 161 8-	german	Systemkompetenz als Zieldimension komplexer Simulationen	Kriz, Willy C.						Berufs- und Wirtschaftspädagogik Online		10	2006
6	ISSN: 143 9- 336	german	Partizipation in der stationären Jugendhilfe. Ergebnisse und praktische Schlussfolgerungen einer Erkundung in Bayern	Babic, Bernhard						eev-aktuell	24	2	2006
7	ISSN: 094 9- 114	german	Modellierung naturwissenschaftlicher Ko	Schecker, Horst	Parchmann, Ilka					Zeitschrift für Didaktik der Naturwissenschaften	12		2006
8	ISSN: 094 9- 114	german	Göttinger Modell der Bewertungskompetenz – Teilkompetenz „Bewerten, Entscheiden und Reflektieren“ für Gestaltungsaufgaben Nachhaltiger	Eggert, Sabina	Bögeholz, Susanne					Zeitschrift für Didaktik der Naturwissensch	12		2006

# WP6 task 2

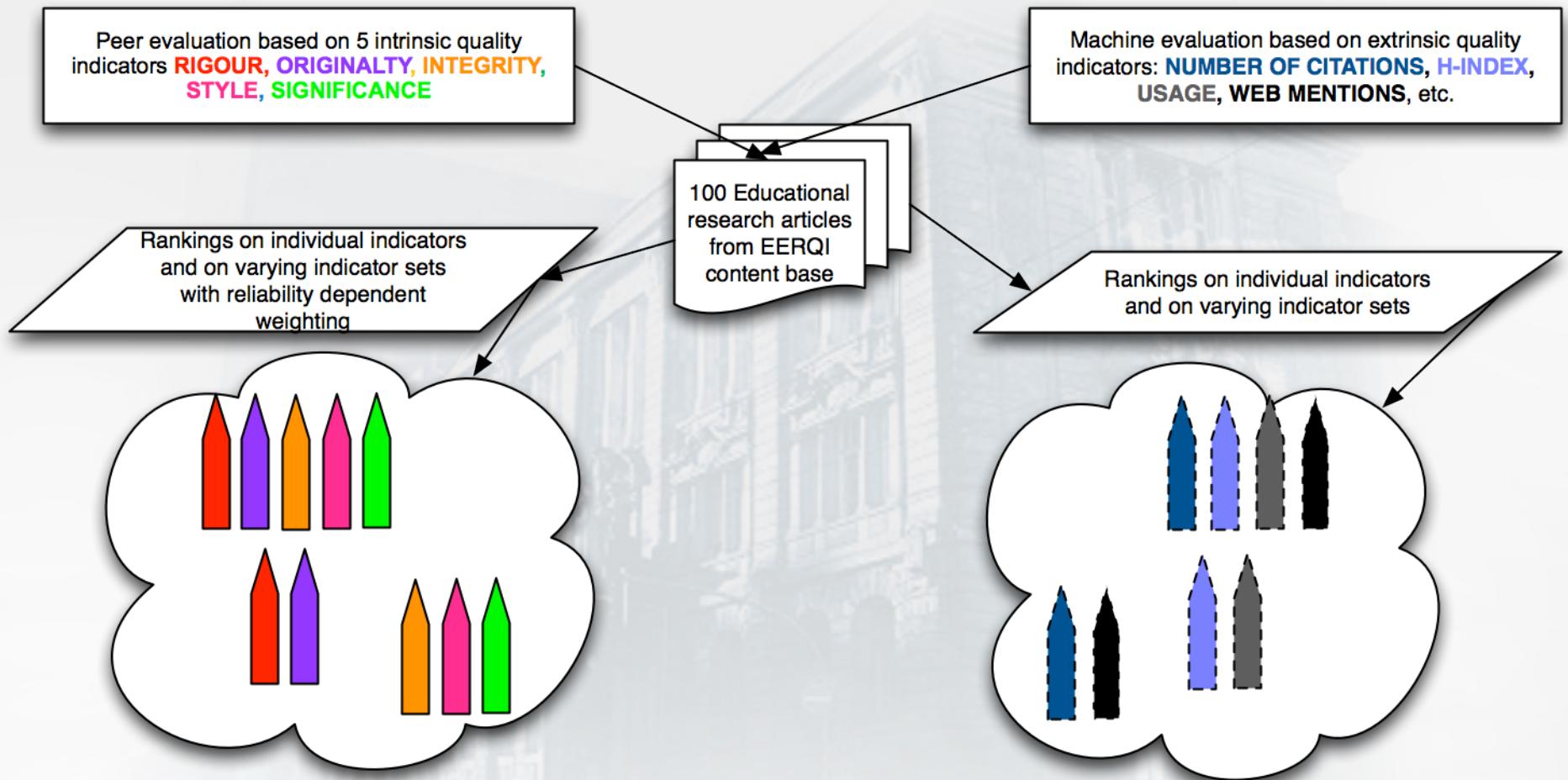
- “Designing the testing methodologies and using the query engine from WP 5 to apply these indicators to the content base and to test them in terms of the usability, reliability and effectiveness.”
- First approach presented in September 2008 (Gothenburg)
  - Comparison of results from human peer reviewing and results obtained from automatic semantic text analysis => **not viable**
- Second approach suggested in October 2008
  - Comparison of peer review assessments obtained by the publishers and results obtained from statistical / bibliometrical analysis => **not viable**
- Third approach presented and discussed in September 2009 in Vienna => **retained for implementation**



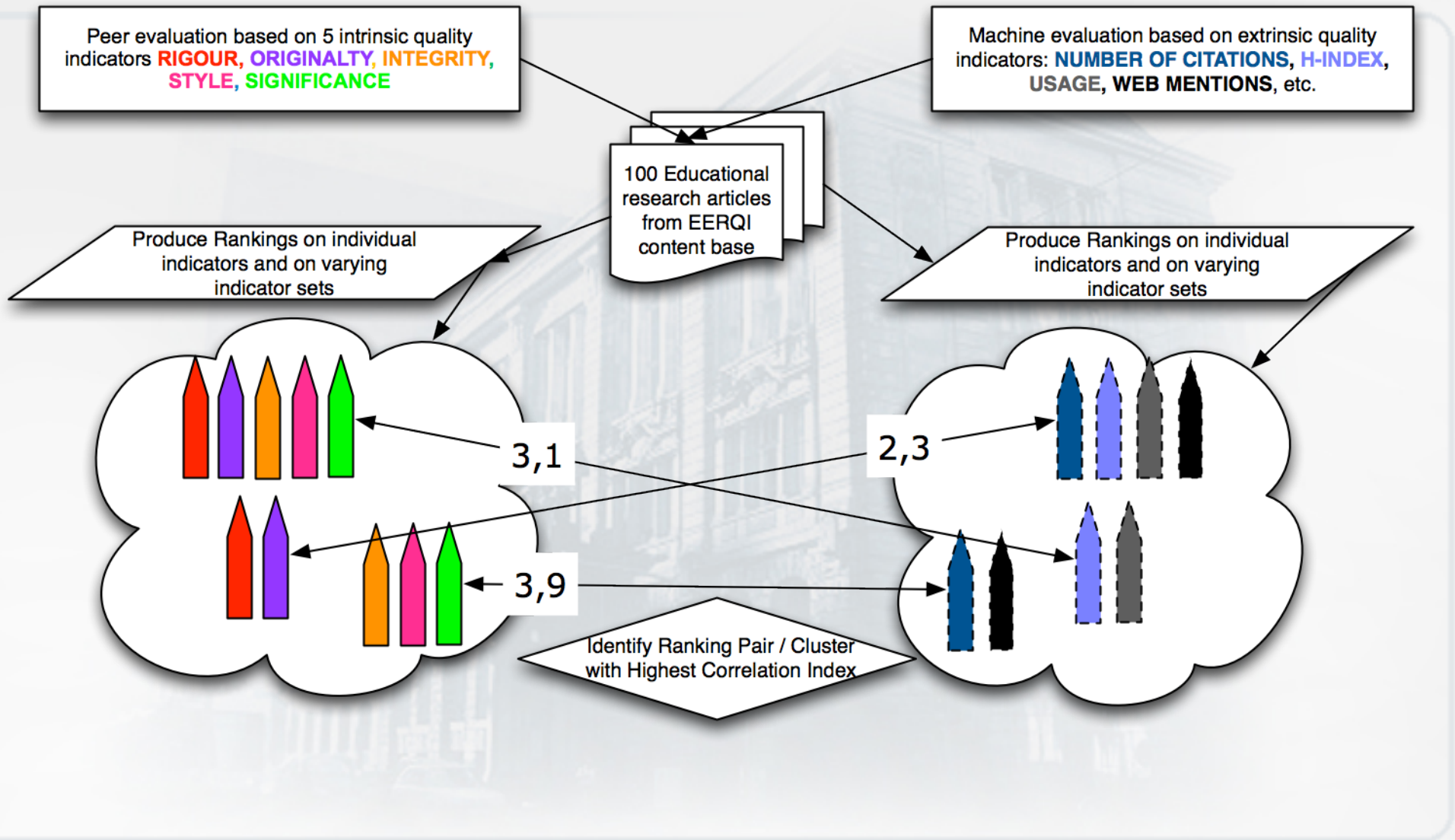
# AL1: Step 1



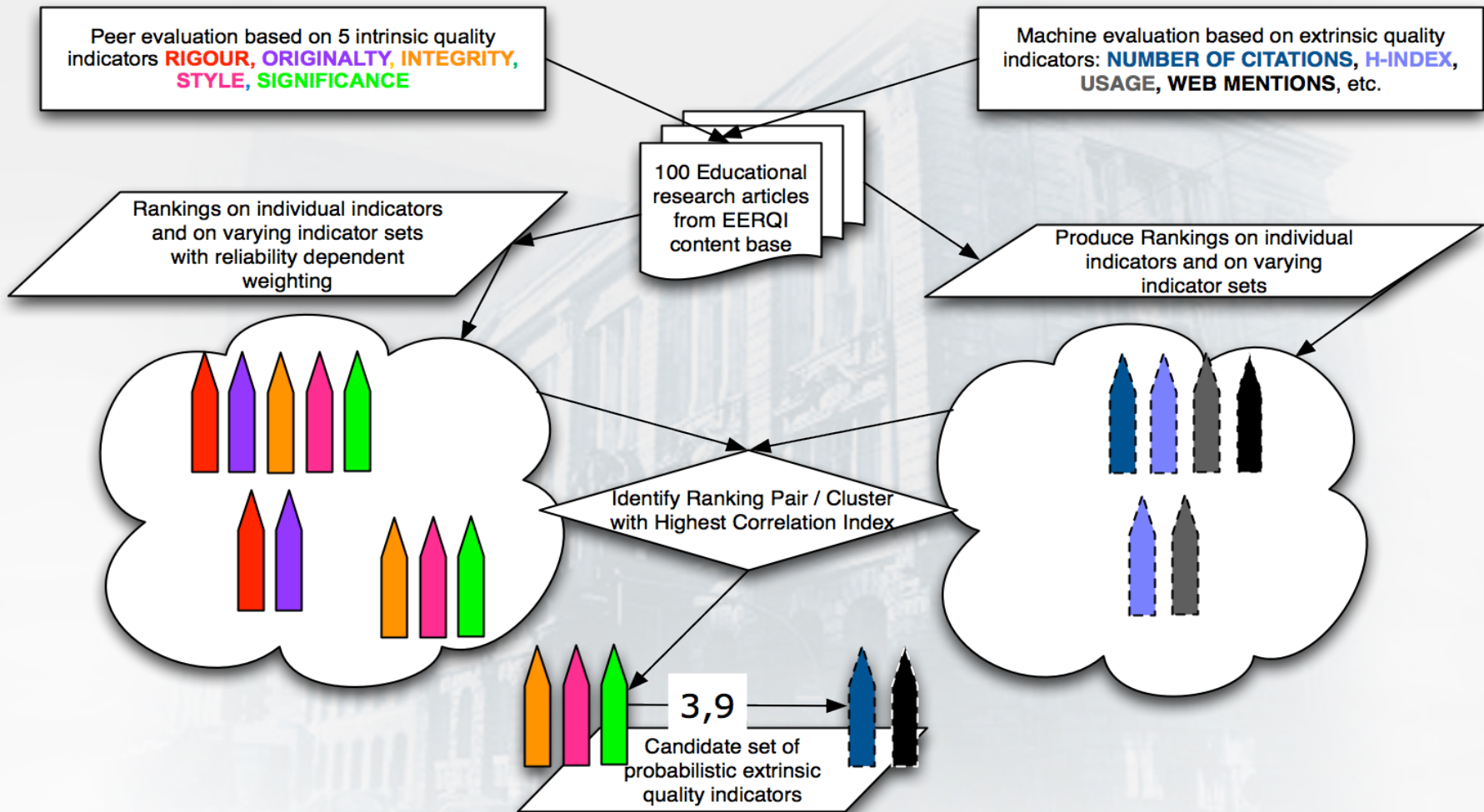
# AL1: Step 2



# AL1: Step 3

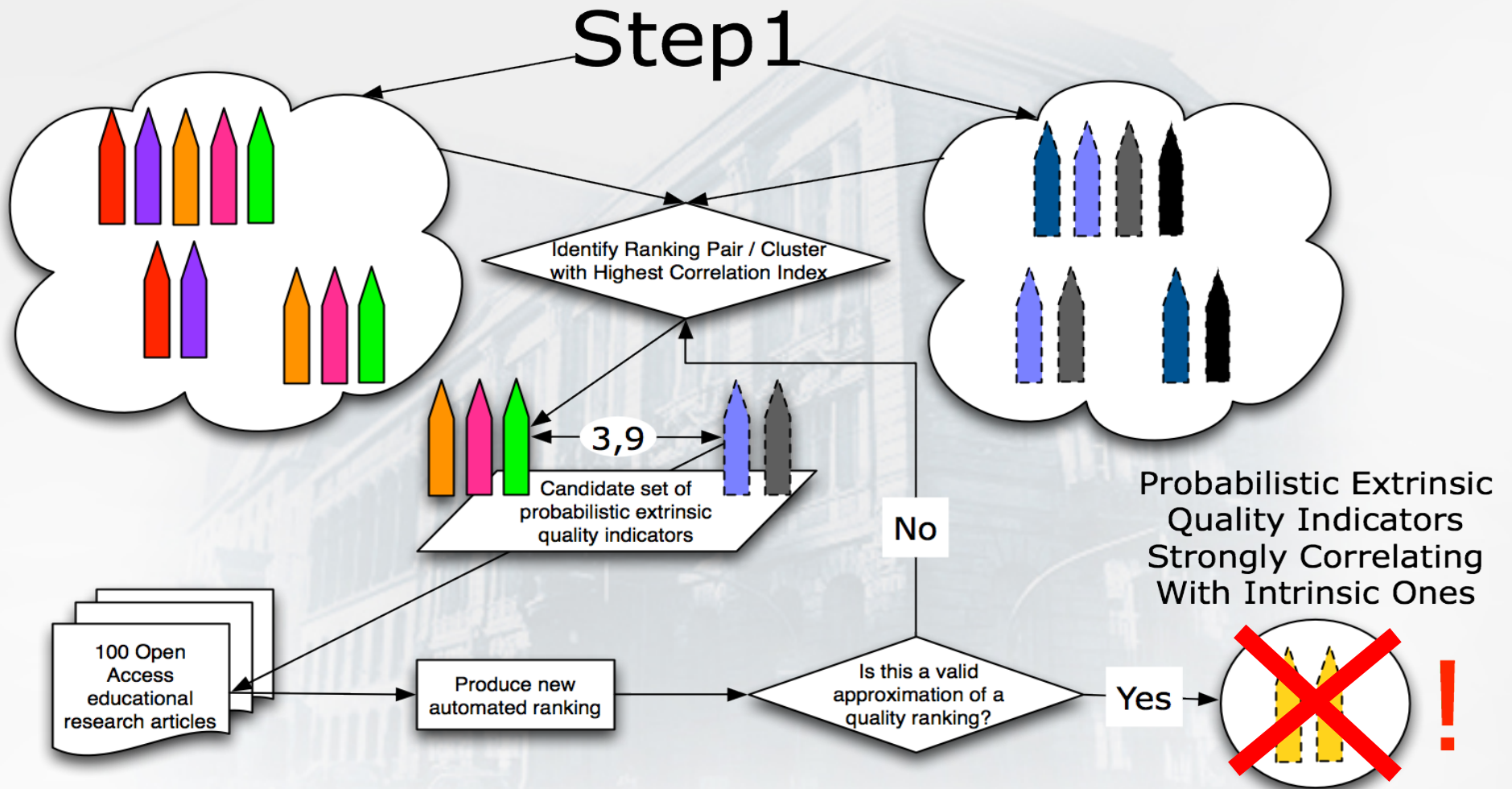


# AL1: Step 4

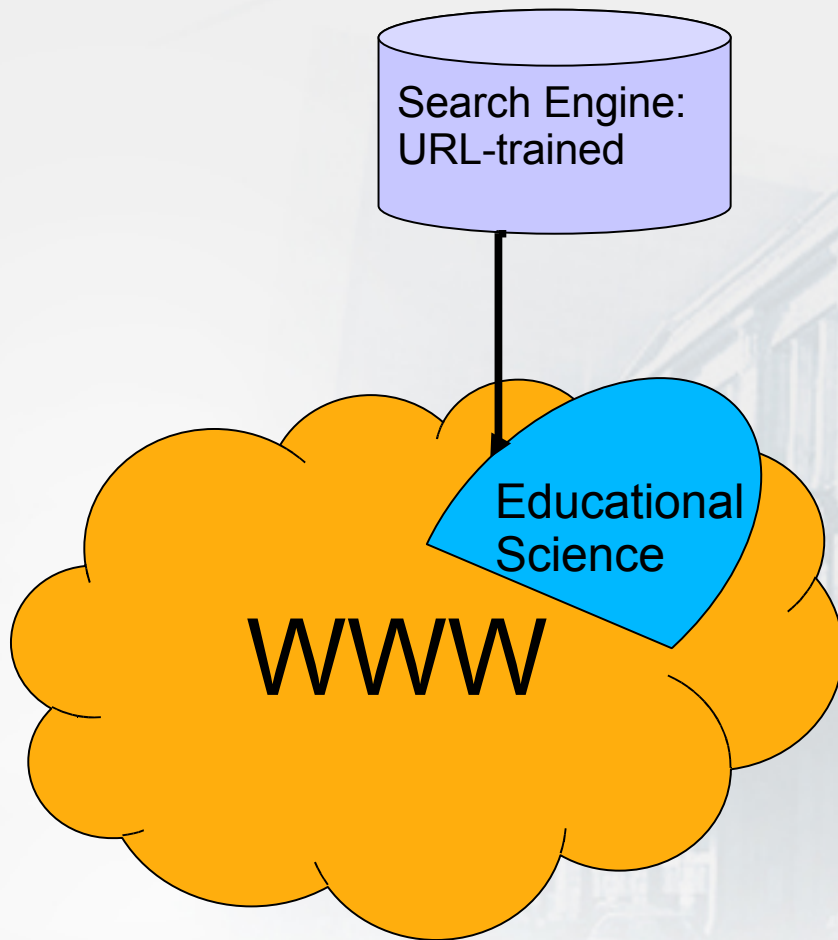




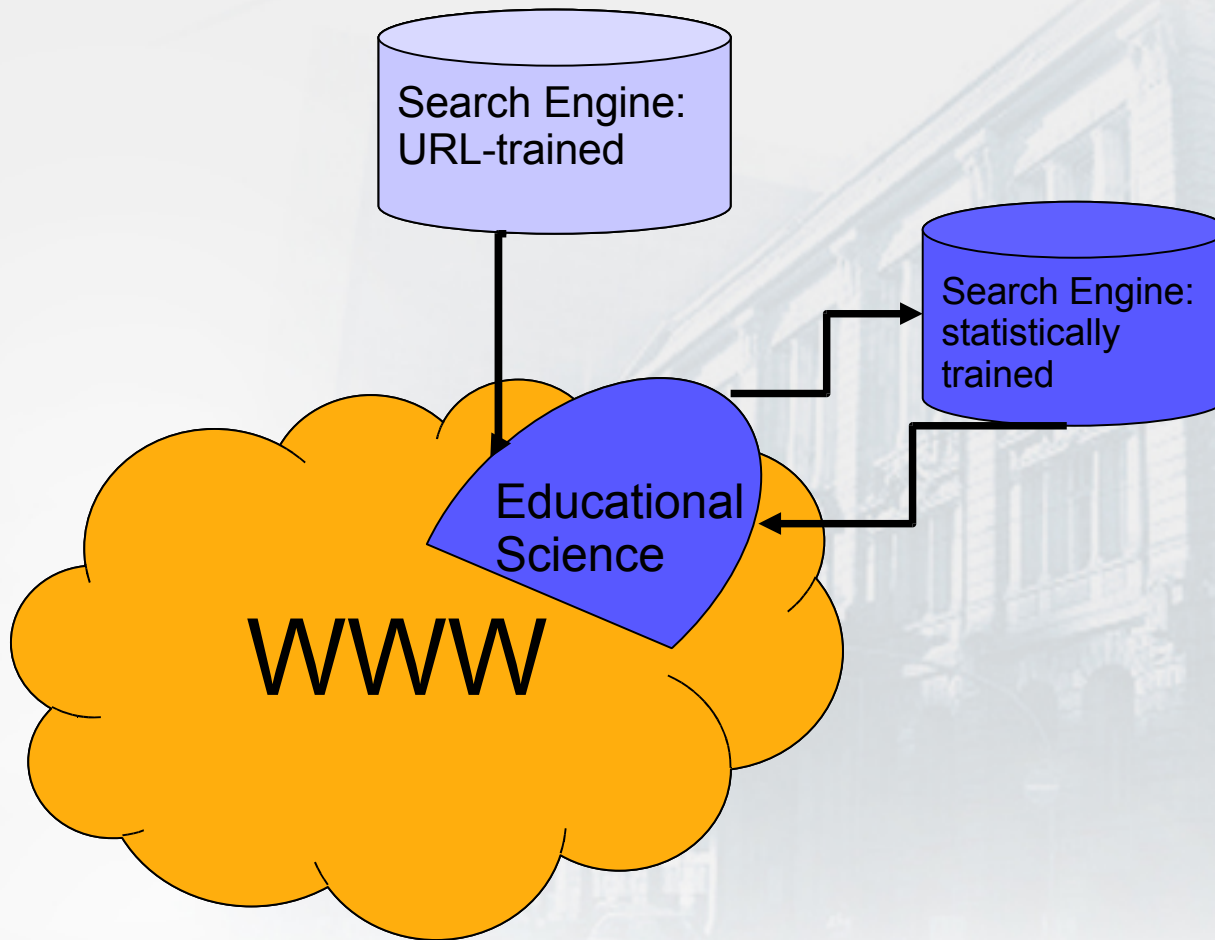
# AL1: Step 5



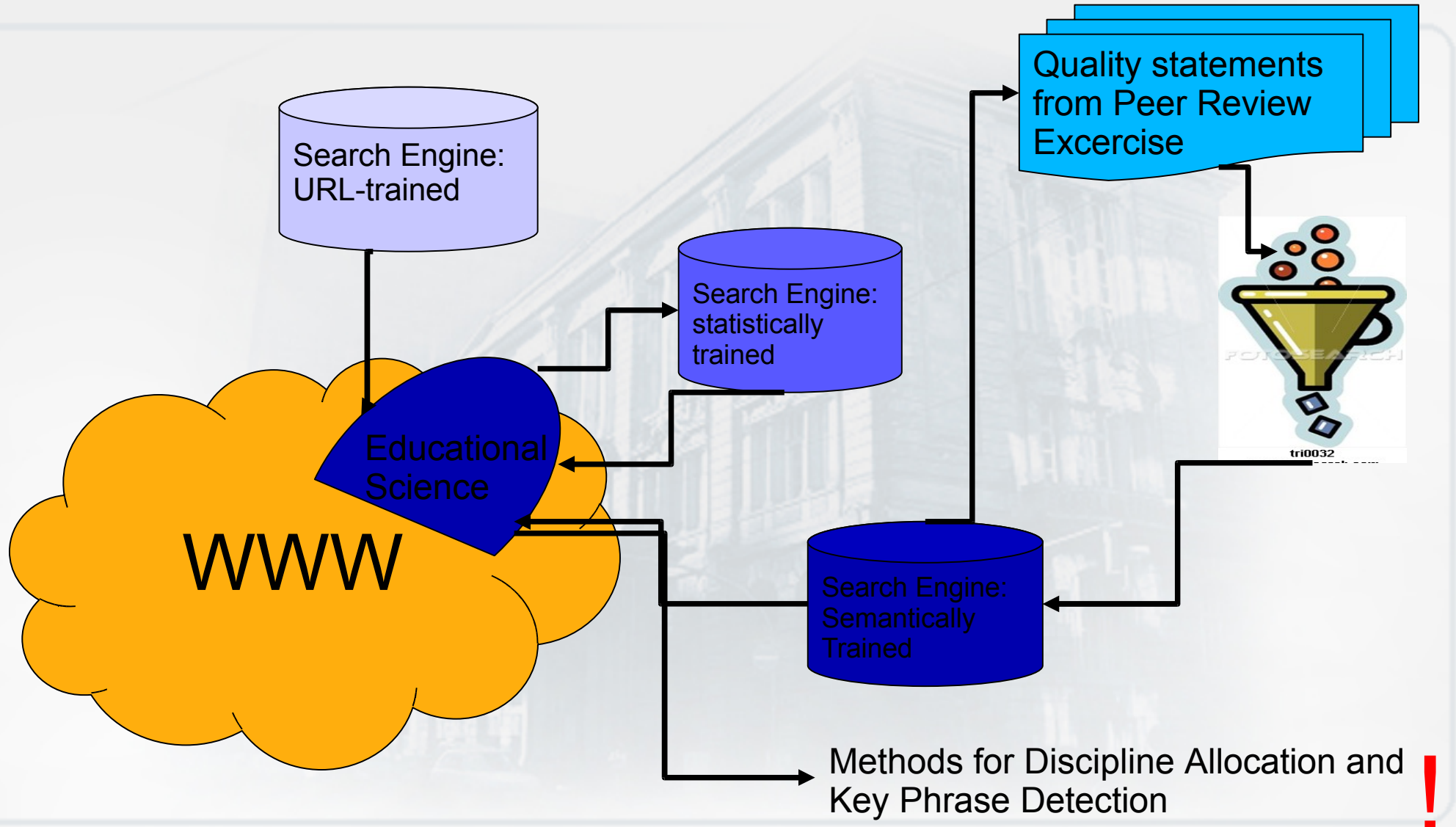
# AL2: Step 1



# AL2: Step 2

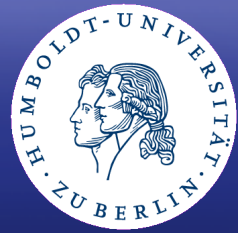


# AL2: Step 3





# WP6 task 3: Further Steps for Framework Building



- “Monitoring the test results to refine the methodologies and to determine verification procedures to be presented to the scientific community.”
- Feed results into a specialised search engine to enable automated resource evaluation assisting framework using
  - Indicator reliability weight
  - Probabilistic extrinsic quality indicators strongly correlating with intrinsic ones
  - Methods for discipline allocation
  - Key phrase detection
- Such a framework would enable relative resource evaluation based on result set ranking methods



# First Results

# Test sample

- Content base
  - “a domain-centred content base which consists of an aggregated set of subject-relevant documents contributed by the participating publishers [...], as well as subject-relevant open access and other internet-based resources harvested by the EERQI search engine to be developed within the project.” (DoW)
  - production of EERQI publishing partners (NOT full production)
  - no segmentation of educational science sub-disciplines
- → Aleatoric selection of content from content base
- → Aleatoric allocation of content to reviewers
- Formal selection criteria: 5-30 pages, year 2006
- English language: 50 articles from 7 journals
- French language: 25 articles from 5 journals
- German language: 25 articles from 9 journals

# Sources of extrinsic indicators



- Web of Science – Social Science Citation Index
- Scopus
- Mesur
- Google Scholar
- The Web
- Web 2.0





# Web of Science

## Searches done

- Indexed Journals
  - Not one of the journals is indexed in WoS
- Indexed Articles:
  - Not one of the articles is indexed in WoS
- Indexed Authors:
  - Fuzzy results due to several authors with the same or similar name due to name format in WoS
- Cited references:
  - Very preliminary results will be refined until April

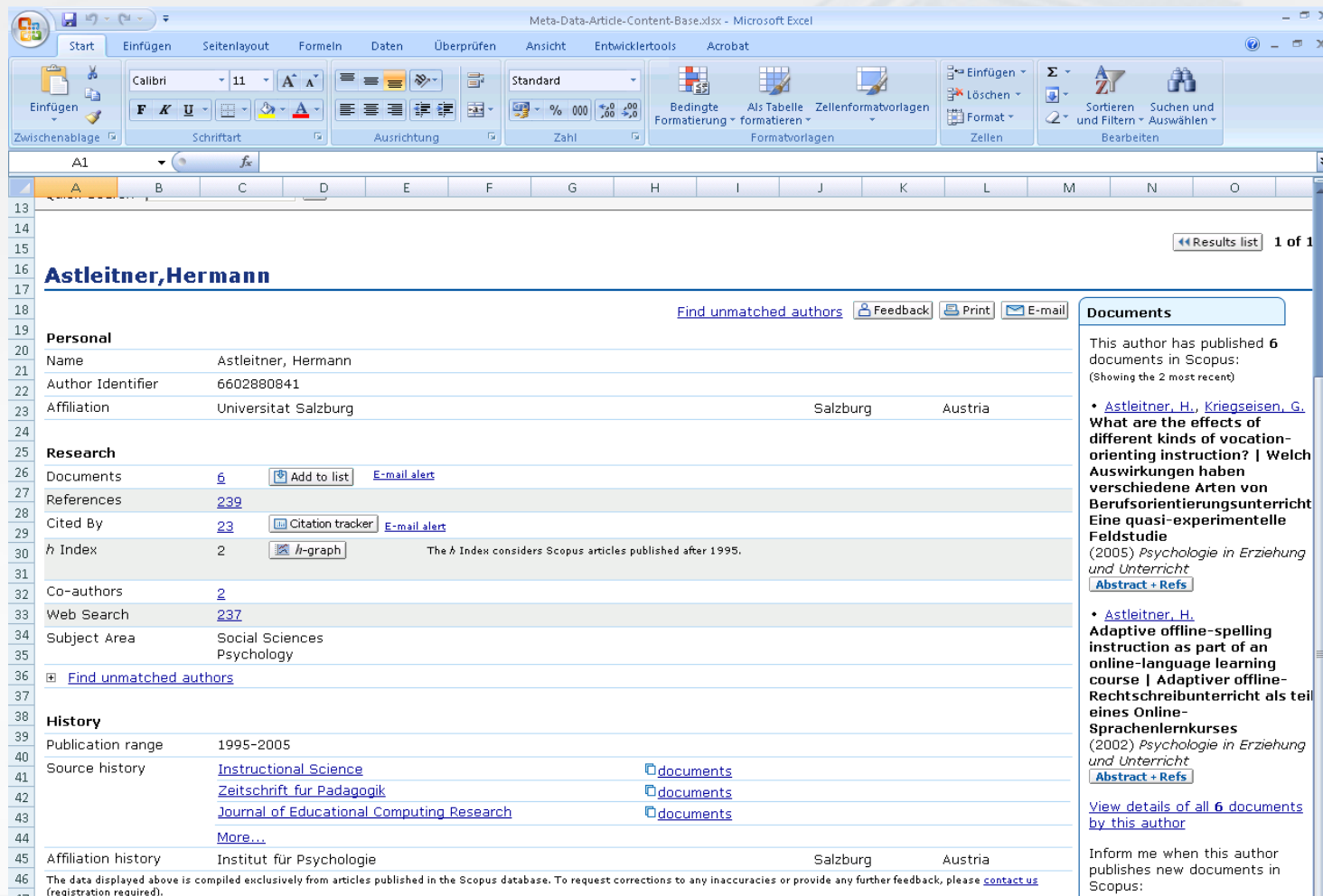
# Scopus

## Searches done

- Indexed Journals:
  - 2 journals from 2006 are indexed in Scopus ( FQS and Revue française de pédagogie) some more are indexed but not in 2006
- Indexed Articles:
  - 8 articles are indexed in Scopus
- Indexed Authors:
  - Fuzzy results due to same or similar name
  - Service “Web mentions” in Scopus is promising: around 2/3 of the authors are mentioned
- Cited references:
  - Very preliminary results will be refined until April

# Scopus

## ■ Web mentions in Scopus



Meta-Data-Article-Content-Base.xlsx - Microsoft Excel

Start Einfügen Seitenlayout Formeln Daten Überprüfen Ansicht Entwicklertools Acrobat

Calibri 11 Standard

Einfügen Zwischenablage Schriftart Ausrichtung Zahl Bedingte Formatierung Als Tabelle Zellenformatvorlagen Formatvorlagen Einfügen Löschen Zellen Sortieren Suchen und Filtern Auswählen Bearbeiten

Results list 1 of 1

**Astleitner, Hermann**

[Find unmatched authors](#) [Feedback](#) [Print](#) [E-mail](#)

**Personal**

Name Astleitner, Hermann

Author Identifier 6602890841

Affiliation Universität Salzburg Salzburg Austria

**Research**

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Web Search 237

Subject Area Social Sciences Psychology

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**History**

Publication range 1995-2005

Source history [Instructional Science](#) [documents](#)  
[Zeitschrift für Pädagogik](#) [documents](#)  
[Journal of Educational Computing Research](#) [documents](#)  
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Affiliation history Institut für Psychologie Salzburg Austria

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 (2005) *Psychologie in Erziehung und Unterricht*  
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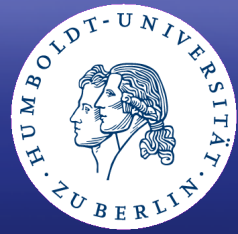
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# Mesur

- Metrics from Scholarly Usage of Resources
- Principal investigator: Johan Bollen
- Institution: Los Alamos National Laboratory
- 15 of 20 journals from the EERQI sample are directly or indirectly part of the Mesur database
- Further tests in the Mesur database will be done



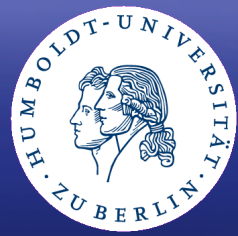
# Google Scholar – Publish or Perish



- Most exhaustive and complete source for extrinsic indicators
- Accessible via Publish or Perish
- Indicators:
  - Number of papers,
  - Papers per author,
  - Cites per paper,
  - Cites per year,
  - H-index, G-index, E-index etc.
- **But:** NO API (anymore), therefore (theoretically) three options:
  - 1. Develop a tool like Publish or Perish with project resources
  - 2. Ask Google for the API
  - 3. Carry on negotiations with the developer of Publish or Perish



# Google Scholar – Publish or Perish



http://code.google.com/p/google-ajax-api/issues/detail?id=109

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**google-ajax-api**  
Google AJAX APIs

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★ **Issue 109: Please add Google Scholar to the API, including # of citations and BibTex reference.** [Prev](#) 66 of 273 [Next](#)  
196 people starred this issue.  
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Status: New  
Owner: ---  
Type: Suggestion  
Priority: Medium  
APIType: Search

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Reported by [anders.norgaard](#), Sep 16, 2008

This is a feature request.

Please add Google Scholar to the API. That in itself would be great. But I think fantastic tools can be made if the search result also includes the information currently presented on Google Scholar. In particular

- 1) The number of citations (and links to them)
- 2) BibTex reference entry
- 3) Information whether the paper/content is available as HTML. (And even better if it is under a Free license.)

Thanks  
Anders

Comment 1 by [jrgerdes](#), Sep 16, 2008  
(No comment was entered for this change.)  
Labels: -Type-Defect Type-Suggestion

Comment 2 by [jrgerdes](#), Sep 16, 2008  
(No comment was entered for this change.)  
Labels: APIType-Search

Comment 3 by [pedrobeltrao](#), Sep 17, 2008  
I would add my vote for this feature. Recommendation engines for academic articles would work a lot better with an easy to access citation database.

Comment 5 by [dan.swan](#), Sep 17, 2008



# Additional methods

- Web Mentions
  - Method coined by Mike Thelwall
  - Most promising in terms of data return but most imprecise results
  - Interpretation of results is a challenge
- Web 2.0 applications
  - Free services for managing and discovering scholarly references, journals and monographs
    - CiteUlike
    - Library Thing
    - Connotea
    - Delicious etc.
  - Usefulness will be scrutinized especially for monographs

# Next Steps

- Quality, fuzziness and partly fragmentary nature of extrinsic data sources creates concern.
- *AL1 yields a valid result in any possible scenario:*
  - 1) *Success in identification of a strong extrinsic correlation → probabilistic indicator set*
  - 2) *No success in the sense of no correlation identified → strong statement to policy makers: do not count on this type of methodology*
  - 3) *No success because of lacking extrinsic data sources → same as in 2)*
- *AL2 simply depends on the peer reviewing exercise being carried out*
- *→ suggestion to proceed as planned*
- Most of this may be hypothetical considering the results of yesterday's discussion → ?